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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,175	04/09/2001	Maurizio Lazzerini	34748/GM/1p	7483
7590	05/05/2004			
Guido Modiano MODIANO & ASSOCIATI Via Meravigli, 16 Milano, 20123 ITALY			EXAMINER FULLER, ERIC B	
			ART UNIT 1762	PAPER NUMBER
DATE MAILED: 05/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/828,175	LAZZERINI, MAURIZIO	
	Examiner	Art Unit	
	Eric B Fuller	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-5 and 7-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The specification does not support the added limitation of the second backing layer being made of polyester.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Hutton (US 5,959,768) in further view of Chorley (WO98/19866).

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Harbaugh teaches a security thread for currency that is made of a plastic thread, such as polyester (column 7, lines 50-57), coated with a metallic layer, such as aluminum (column 7, line 60). The reference further teaches to use laser etching to remove preset areas in order to produce visible alphanumeric characters and/or machine detectible codes (column 8, line 1; column 7, lines 15-50). The reference is silent to how laser etching is used to remove the preset regions.

However, Hutton teaches a process of etching aluminum from a clear, plastic substrate (column 4, lines 60-65; column 5, lines 5-15). This is performed using a Nd:YAG laser with a wavelength between 850 nm to 2 microns (column 4, line 67; column 6, lines 33-35). From figure 6, it is shown that the laser passes through the plastic substrate before reaching the aluminum coating. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the etching process taught by Hutton to perform the laser etching taught by Harbaugh. By doing so, one would have a reasonable expectation for success, as Harbaugh teaches to use laser etching and Hutton teaches the steps for laser etching.

The combined references fail to teach that the coating may further be coated with a second backing layer of polyester. However, Chorley teaches a transparent polyester covering layer to be applied to the coded layer in order to protect the coded layer (page 7, lines 11-29). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the covering layer of Chorley in the process taught by Harbaugh, in view of Hutton. By doing so, one would reap the

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benefits of the coded layer being protected from wear while still being visible and/or detectible.

Harbaugh teaches the limitations to claims 7 and 8 in figures 3, 4, and 6.

As to claim 12, Harbaugh teaches that the security thread is embedded into the paper (column 8, line 8). To do this before or after the laser-etching step would have been obvious to those skilled in the art with the reasonable expectation of achieving similar results.

Claims 1, 2, 7, 8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Zientek (US 6,372,394 B1) in further view of Chorley (WO98/19866).

The teachings of Harbaugh have been discussed above. Along with how the laser-etching process is performed, Harbaugh also fails to teach using ink as the coating layer.

However, Zientek teaches a method of laser etching an ink coating off of a polymeric substrate (abstract). This is used in order to produce markings for security documents. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use ink as the coating in Harbaugh for producing the alphanumeric codes that need only to be detectable visually. By doing so, a less expensive material is being used as the coating, thus resulting in a less expensive process.

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Additionally, Zientek teaches that the wavelength of the laser is between .5 microns to about 20 microns, which is inclusive of the applicant's range. It is also taught that the laser may be used to etch off ink from one side of the substrate, or both sides simultaneously (column 2, lines 50-60; figures 1 and 2). It would have been obvious to one skilled in the art that to have the laser directly hit the ink or to have the laser go through the substrate first would result in similar process. To use either method would have obvious.

The combined references fail to teach that the coating may further be coated with a second backing layer of polyester. However, Chorley teaches a transparent polyester covering layer to be applied to the coded layer in order to protect the coded layer (page 7, lines 11-29). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the covering layer of Chorley in the process taught by Harbaugh, in view of Zientek. By doing so, one would reap the benefits of the coded layer being protected from wear while still being visible and/or detectible.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Zientek (US 6,372,394 B1) and Chorley (WO98/19866), as applied to claim 1 above, and further in view of Hutton (US 5,959,768).

Harbaugh, in view of Zientek and Chorley, teaches the limitations of claim 1, as shown above, but fails to teach what type of laser should be used to perform the etching. However, Hutton teaches that Nd:YAG lasers are used for etching because

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glass and plastic substrates are transparent to the 1.06 um wavelength (column 6, lines 35-40). Therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a Nd:YAG laser in the process taught by Harbaugh, Zienteck, and Chorley. By doing so, one would have a reasonable expectation for success, as Harbaugh teaches to use laser etching and Hutton teaches the steps for laser etching.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Hutton (US 5,959,768) and Chorley (WO98/19866), as applied to claim 1 above, and further in view of Mantegazza (EP 0 310 707 A2) and Meyer et al. (US 5,858,474).

Harbaugh, in view of Hutton and Chorley, teaches the limitations of claim 1, as shown above, but fails to teach that the coating layer is a magnetic layer. However, Mantegazza teaches that security threads made of polyester, with magnetic iron oxide codes inscribed, may be used in anti-forgery documents. The advantage of using the magnetic layer is that it is not optically detectable, thus making it difficult to reproduce by forgery (column 1, lines 49-52). Additionally, Meyer, as shown in previous office actions, shows that magnetic coatings are capable of being etched by laser. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use magnetic coatings, such as that taught by Mantegazza, for producing the machine detectable codes taught in the process of Harbaugh, in view of

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Hutton and Chorley. By doing so, the code is not optically detectable and forgery is deterred.

Response to Arguments

Applicant argues that the limitations of claim 6 have been incorporated into claim 1 and that Leenders (used in the previous office action for the rejection of claim 6) fails to teach the limitations of claim 1, as amended. It is noted that claim 1 now requires that the second backing layer is polyester. This limitation was absent from the previous set of claims and is therefore a new issue requiring further search and consideration. Examiner agrees that Leenders fails to teach that the protective layer is polyester and has withdrawn the rejections using Leenders accordingly. However, applicant's arguments are moot in view of the new grounds of rejection using on Chorley in place of Leenders.

In so far the applicant's arguments pertain to Chorley they will be further discussed. Applicant argues that the prior art fails to teach the two backing layers with the abatable material sandwiched between the two backing layers and ablated through either side while sandwiched between the two. This argument is not convincing. The claims are open to the second backing layer (protective layer) being applied after the laser-etching step. No order to the steps is required by the claims. The claims only require that the laser beam acting on the covering layer through one of the backing layers. The prior art (Hutton - figure 6) teaches this. The protective layer being applied after etching is within the scope of the applicant's claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (571) 272-1420. The examiner can normally be reached on Mondays through Thursdays.

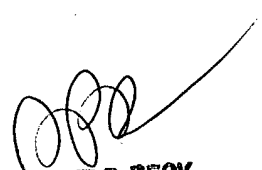
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrivè P Beck, can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EBF



SHRIVE P. BECK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700